

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

AI 1. (Currently Amended) A computer-implemented method for embedding hidden data in an audio signal, comprising the steps of:

receiving the audio signal in a base domain;

transforming the received audio signal to ~~a non-base domain~~ one of a linear prediction residue domain and a cepstrum domain; and

embedding the hidden data in ~~the transformed non-base domain~~ one of the linear prediction residue domain and the cepstrum domain via parametric representation of the audio signal.

2. (Currently Amended) The method of Claim 1 further comprising the step of:

transforming the received audio signal to ~~the non-base domain~~ one of the linear prediction residue domain and the cepstrum domain such that transform domain coefficients are generated that are indicative of the transformed ~~non-base domain~~ audio signal.

3. (Currently Amended) The method of Claim 1 further comprising the steps of:

transforming the received audio signal to ~~the non-base domain~~ one of the linear prediction residue domain and the cepstrum domain such that transform domain coefficients are generated that are indicative of the transformed ~~non-base domain~~ audio signal; and

manipulating a statistical measure of a selected subset of the transform domain coefficients in order to embed the hidden data.

4. (Currently Amended) The method of Claim 3 further comprising the step of:

modulating the embedded data with at least one predetermined statistical feature of the transformed ~~non-base domain~~ audio signal.

5. (Currently Amended) The method of Claim 3 further comprising the step of:

increasing the amplitude of at least one predetermined feature of the transformed ~~non-base domain~~ audio signal so that statistical mean of the predetermined feature is positive for embedding a bit of one in the audio signal.

6. Cancelled.

7. Cancelled.

8. (Original) The method of Claim 1 further comprising the step of:
using a psycho-acoustic model to control inaudibility of the embedded data.

9. (Currently Amended) The method of Claim 1 further comprising the steps
of:

~~transforming the received audio signal to the non-base domain wherein the non-
base domain is selected from the group consisting of linear prediction residue domain
and cepstrum domain;~~

generating an inverse transformation signal using the embedded hidden data that
is in the transformed ~~non-base domain~~ audio signal;

receiving an attack upon the generated inverse transformation signal;

transforming the attacked inverse transformation signal to ~~the~~ a non-base domain
so as to generate a second transformed audio signal that is in the non-base domain;
and

extracting the embedded hidden data from the second transformed audio signal
~~that is in the non-base domain.~~

10. (Currently Amended) The method of Claim 1 further comprising the steps
of:

transforming the received audio signal to a the cepstrum domain;

embedding the hidden data in the cepstrum domain; and

enforcing a positive mean to embed a "1" and keeping a zero mean intact to
embed a "0" in the cepstrum domain.

11. (Currently Amended) A computer-implemented apparatus for embedding hidden data in an audio signal, comprising the steps of:

a data input device for receiving the audio signal in a base domain;

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a signal transformer connected to the data input device for transforming the received audio signal to ~~a non-base domain~~ one of a linear prediction domain and a cepstrum domain; and

an embedder connected to the signal transformer for embedding the hidden data in ~~the transformed non-base domain~~ one of the linear prediction domain and the cepstrum domain of the audio signal.

12. (Currently Amended) The apparatus of Claim [[12]] 11 wherein the signal transformer transforms the received audio signal to the non-base domain such that transform domain coefficients are generated that are indicative of the transformed non-base domain audio signal, said embedder manipulating a statistical measure of a selected subset of the transform domain coefficients in order to embed the hidden data.

13. (Cancelled).

14. (Cancelled).

15. (Original) The apparatus of Claim 11 further comprising:
a psycho-acoustic model to control inaudibility of the embedded data.

AI 16. (Currently Amended) The apparatus of Claim 11 wherein the transformer transforms the received audio signal to a the cepstrum domain, said embedder embedding the hidden data in the cepstrum domain by enforcing a positive mean to embed a "1" and keeping a zero mean intact to embed a "0" in the cepstrum domain.
